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(54) Title: A MG-BASED FERRITE, AN ELECTROPHOTOGRAPHIC DEVELOPMENT CARRIER CONTAINING THE FERRITE, AND A DEVELOPER CONTAINING THE CARRIER

(57) Abstract: This invention provides an Mg-based ferrite carrier composed of an environment-friendly material meeting environmental regulations, and an electrophotographic developer comprising the carrier. The carrier and the developer of this invention realize high image quality and improved gradation properties. This invention also provides a method for producing the Mg-based ferrite material having a saturation magnetization of from 30 to 80 emu/g and a dielectric breakdown voltage of from 1.0 to 5.0 kV, and having the composition of the formula (1). The above properties are obtained by controlling conditions of sintering and heating treatments.  $\text{Ca}a\text{MgbFecOd}$  (1) wherein a, b, and c satisfy  $0.10 \leq b/(b+c/2) \leq 0.85$  and  $0 \leq R(\text{Ca}) \leq 0.10$ ;  $R(\text{Ca})$  is expressed as  $R(\text{Ca}) = a \sim \text{Fw}(\text{CaO}) / (a \sim \text{Fw}(\text{CaO}) + b \sim \text{Fw}(\text{MgO}) + (c/2) \sim \text{Fw}(\text{Fe}_2\text{O}_3))$  (Fw(A): formula weight of A; j; and d is determined by oxidation numbers of Ca, Mg and Fe.

WO 2004/088680 A2